WHAT IS CLAIMED IS:

1. A transmitter in a fiber optic system, the transmitter comprising:

a driver circuit configured to receive a modulated electrical signal and to have a driver circuit output impedance;

a light emitting source having a light emitter impedance different than the driver circuit output impedance, the light emitting source configured to receive the modulated electrical signal such that it produces a modulated optical signal proportional to modulated electrical signal; and

tapered transmission lines having a length between a first end and a second end, the tapered transmission lines coupled to the driver circuit at the first end and to the light emitting source at the second end such that the transmission lines transmit the modulated electrical signal from the driver circuit to the light emitting source, the transmission lines configured such that impedance of the transmission lines gradually changes over the length so that the tapered transmission lines match the impedance of the driver circuit at the first end and match the impedance of the light emitter at the second end.

2. The transmitter of claim 1 wherein the tapered transmission lines gradually change the capacitance and impedance along the length such that the tapered transmission lines gradually match the driver circuit output impedance at the first end to the light emitter impedance at the second end without use of lumped circuit components.

3. The transmitter of claim 1 wherein the tapered transmission lines comprise two lines spaced apart in a transmission plane, the transmission plane being located adjacent a ground plane.

4. The transmitter of claim 3 wherein the two lines are spaced apart from each other at the first end by a first distance and spaced apart from each other at

the second end by a second distance, the first distance being greater than the second distance.

5. The transmitter of claim 3 wherein the two lines are spaced apart from each other at the first end by a first distance and spaced apart from each other at the second end by a second distance, the first distance being less than the second distance.

6. The transmitter of claim 3 wherein the lines in the transmission plane are spaced apart from the ground plane at the first end by a first distance and wherein the lines in the transmission plane are spaced apart from the ground plane at the second end by a second distance, the first distance being greater than the second distance.

7. The transmitter of claim 3 wherein the lines in the transmission plane are spaced apart from the ground plane at the first end by a first distance and wherein the lines in the transmission plane are spaced apart from the ground plane at the second end by a second distance, the first distance being less than the second distance.

8. The transmitter of claim 3 wherein each of the lines has a varying diameter over the length of the transmission lines such that the diameters of the two lines at the first end are smaller than the diameters of the two lines at the second end.

9. The transmitter of claim 3 wherein each of the lines has a varying diameter over the length of the transmission lines such that the diameters of the two lines at the first end are larger than the diameters of the two lines at the second end.

10. The transmitter of claim 1 wherein the driver circuit output impedance is higher than the light emitter impedance.

11. The transmitter of claim 1 wherein the driver circuit output impedance is between 50 Ohms and 75 Ohms and the light emitter impedance is between 5 Ohms and 25 Ohms such that that transmission line impedance gradually changes over its length from between 50 Ohms and 75 Ohms to between 5 Ohms and 25 Ohms.

12. The transmitter of claim 1 wherein the driver circuit is a laser driver circuit and the light emitter source is a laser diode.

13. The transmitter of claim 1 wherein the driver circuit is a light emitting diode driver circuit and the light emitter source is a light emitting diode.

14. The transmitter of claim 1 wherein the driver circuit output impedance is 50 Ohms and the light emitter impedance is 5 Ohms and the transmission lines taper to gradually decrease impedance so as to match the driver circuit and the light emitter source.

15. A fiber optic communication system comprising:

a signal transmitter that produces an optical signal of varying light intensity, the transmitter further comprising:

a driver circuit configured to receive an original modulated electrical signal and to generate a driver electrical signal, the driver circuit configured to have a driver circuit output impedance;

a light emitting source having a light emitter impedance different than the driver circuit output impedance, the light emitting source configured to receive the original modulated electrical signal such that it produces the optical signal of varying light intensity that is proportional to the original modulated electrical signal; and

tapered transmission lines coupled between the driver circuit and the light emitting source such that the transmission lines transmit the driver electrical signal from the driver circuit to the light emitting source, the tapered transmission lines tapered such that impedance of the transmission lines gradually changes such that the tapered transmission lines match both the driver circuit output impedance and the light emitter impedance;

an optical fiber coupled to the signal transmitter that receives and transmits the optical signal; and

a receiver coupled to the optical fiber that receives the optical signal and converts the received optical signal into an output electrical signal that is a replica of the original modulated electrical signal.

16. The fiber optic communication system of claim 15 wherein the tapered transmission lines gradually change the impedance along such that the tapered transmission lines gradually match the driver circuit output impedance to the light emitter impedance without use of lumped circuit components.

17. The fiber optic communication system of claim 15 wherein the tapered transmission lines comprise two lines spaced apart from each other immediately adjacent the driver circuit by a first distance and spaced apart from each other immediately adjacent the light emitter by a second distance, the first distance being greater than the second distance.

18. The fiber optic communication system of claim 15 wherein the tapered transmission lines comprise two lines spaced apart in a transmission plane, the transmission plane being located adjacent a ground plane and wherein the lines in the transmission plane are spaced apart from the ground plane immediately adjacent the driver circuit by a first distance and wherein the lines in the transmission plane are spaced apart from the ground plane immediately adjacent

the driver circuit by a second distance, the first distance being greater than the second distance.

19. The fiber optic communication system of claim 15 wherein the tapered transmission lines comprise two lines having varying diameter over such that the diameters of the two lines immediately adjacent the driver circuit are smaller than the diameters of the two lines immediately adjacent the driver circuit.

20. A transmitter in a fiber optic system, the transmitter comprising:

a driver circuit configured to receive a modulated electrical signal and to have a driver circuit output impedance;

a light emitting source having a light emitter impedance different than the driver circuit output impedance, the light emitting source configured to receive the modulated electrical signal such it produces a modulated optical signal proportional to modulated electrical signal; and

matching means coupled between the driver circuit and the light emitting source for transmitting the modulated electrical signal from the driver circuit to the light emitting source and for gradually changing the impedance between the driver circuit and the light emitting source so as to gradually match the driver circuit output impedance to the light emitter impedance.